Recommendations to Puget Sound Partnership (PSP) for planning and funding water quality modeling work in support of regulatory decisions.

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General

The following recommendations for management of modeling work are offered for consideration by the Puget Sound Partnership (PSP) and its Science Panel. The focus of these comments is modeling for regulatory purposes, which entails the development and use of mathematical models to determine whether regulatory plans or controls are needed to reduce pollution. The scope and requirements of this work are defined by federal and state statutes, regulations, and guidance that govern a particular environmental program (e.g., National Environmental Policy Act, Clean Water Act, CERCLA, Endangered Species Act).

While the regulatory context is distinctive, the basic technical endeavors of model development and evaluation are the same for both regulatory and non-regulatory modeling. For this reason, communication between the modelers from different organizations (e.g., regulatory agencies, researchers, consulting firms) is beneficial to all parties. The Puget Sound Marine Environmental Consortium (PSMEMC) is serving as a forum for communication between modelers working on a variety of Puget Sound problems. From a regulatory perspective, it is important to be aware of ongoing work in research and other non-regulatory modeling efforts, because long-term improvements in the science may lead to changes in models and other analytical tools used in the regulatory arena.

In Puget Sound, the two topic areas that will likely involve regulatory programs and the use of water quality models are (1) impact of human-introduced nutrients on dissolved oxygen and (2) bioaccumulation of toxic pollutants (e.g., PCBs).

Recommendations for PSP Implementation of Regulatory Modeling Work:

1. PSP makes decisions on distribution of funds for scientific work, including the split between applied science (includes regulatory modeling) and research.

2. PSP tasks Ecology with providing information on pollution control and regulatory modeling needs that assists PSP in making these decisions.

3. PSP appoints Department of Ecology as project lead or co-lead (e.g., projects involving tribal jurisdiction) in all modeling efforts that will directly or indirectly form a basis for regulatory decisions related to water quality. This is appropriate because Ecology is in a position to address the following necessary elements in regulatory decisions:

    a. Quality Assurance (QA) planning requirements under state and federal regulations

    b. Documentation and peer review appropriate for regulatory actions in the public sphere.

    c. Model development and application with the knowledge of the requirements of the regulatory requirements and public process (water quality standards, permitting rules, TMDL regulations, etc.)

    d. Avoidance of real or perceived conflicts of interest (e.g., model developers from a regulated entity).

    EPA involvement is expected as part of its oversight functions (funding plans and products, regulatory action review/approvals, etc.) and/or intergovernmental coordination (e.g., state/tribal issues, multiple federal agencies).

4. Ecology consults with PSP and funding agencies on the following aspects of regulatory modeling projects:

    a. Linkage of modeling work to potential regulatory outcomes and improvements in water quality.

    b. Expectations regarding roles of partner organizations in specific projects (e.g., technical advisory committees), and expectations for consultation with the PSP Science Panel on project elements.

    c. Proposed process by which funds will be deployed to complete the work, including:

        1. In-house vs. external sourcing (agencies, universities, consulting firms)
        2. Competitive bidding vs. direct sourcing
        3. Tie-ins to ongoing work and opportunities for efficiencies

        Note that many projects will likely involve some combination of in-house and external sourcing of work.